Published in final edited form as:

Am J Nurs. 2014 October ; 114(10): 44–52. doi:10.1097/01.NAJ.0000454851.22018.5d.

Studying nursing interventions in acutely ill, cognitively impaired older adults

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Abstract

Background—Between one and two of every five hospitalized older adults have cognitive deficits, often not accurately assessed or well managed. Cognitive impairment adds substantially to the complexity of these patients' care, places them at high risk for poor outcomes and increases the cost of health care.

Methods—We describe three evidence-based interventions, each capitalizing on the unique contributions of nurses and designed to improve outcomes of hospitalized older adults who have cognitive deficits. Interventions of varying intensity were compared across three hospitals (Phase I) and subsequently within the same hospitals (Phase II). All enrolled patients were screened during their index hospitalizations and cognitive deficits were communicated to relevant health care team members (Augmented Standard Care-ASC, lowest intensity). At one hospital, ASC was the only intervention. Patients at a second hospital also had care influenced by specially prepared registered nurses (Resource Nurse Care-RNC, medium intensity). Finally, patients at third hospital also received advanced practice nurse coordinated care (Transitional Care Model-TCM, higher intensity). In Phase II, newly enrolled patients at these same hospitals all received the TCM. We summarize major themes from review of multiple data sources and researcher recollections related to facilitators and barriers to implementing a complex research study.

Findings—Effective implementation of the three intervention strategies depended on clinician engagement and communication; degree of participation by nurses in the educational program with subsequent practice improvement; and success of advanced practice nurses in implementing the TCM with both with patients, family caregivers and clinicians.

Implications—Based on lessons learned in implementing complex research studies within the “real world” of clinical practice settings, recommendations focus on strengthening facilitators, minimizing barriers and gaining insights into systems issues that affect the conduct of clinical research.

Keywords

cognitive impairment; transitional care; family caregivers; cognitive disorders; health care systems; evidence-based practice

Introduction

Cognitive impairment results from neurodegenerative conditions such as Alzheimer's disease (Alzheimer's Association, 2013), progressive chronic diseases including heart failure (Heckman et al., 2007) and acute multifactorial syndromes, in particular, delirium (Inouye, 2006). Regardless of their cause, cognitive deficits add substantially to the complexity of care needs of acutely ill adults and their family caregivers. Estimates are that between 20 to 43% of hospitalized older adults experience cognitive impairment which can negatively affect their health and quality of life outcomes and significantly increase total annual health care costs (Boustani et al., 2010; Boyd et al., 2008; Bynum et al., 2004; Inouye, 2006; Leslie, Marcantonio, Zhang, Leo-Summers, & Inouye, 2008; Sands et al., 2003). Notably, many patients with cognitive deficits have no prior history of dementia (Boustani et al., 2010).

Acutely ill, cognitively impaired older adults are especially vulnerable to health care systems that either ignore or inadequately address their unique needs (Arora et al., 2010; Boustani et al., 2010; Naylor, Stephens, Bowles, & Bixby, 2005; Swigart, Kishi, Thurber, Kathol, & Meller, 2008). Too often, cognitive deficits among these patients are unrecognized and, even if identified, poorly managed. Consequently, this patient group is at high risk for a cascade of costly but frequently preventable adverse clinical events during and following hospitalizations, including increased rates of falls, malnutrition, incontinence, functional decline, prolonged hospital stays, rehospitalizations, nursing home admissions and mortality (Boustani et al., 2010; Boyd et al., 2008; Bynum et al., 2004; Hitcho et al., 2004; Inouye, 2006; Krauss et al., 2005; Mecocci et al., 2005; Mitchell et al., 2009; Pedone et al., 2005; Rudolph et al., 2010; Sands et al., 2003; Thornlow, Anderson, & Oddone, 2009). Solutions to improve the care of such patients, particularly in early detection and management of delirium risk during hospitalizations are available (Fong, Tulebaev, & Inouye, 2009; Inouye et al., 1999; Inouye et al., 1990) but the nature and intensity of interventions needed to enhance post-hospital outcomes of this vulnerable population are not known.

Promising strategies to address the unique needs of hospitalized cognitively impaired older adults and improve their post-discharge outcomes include: systematic assessment and reporting of patients' cognitive status to health team members (Boustani et al., 2012; Cole, 2004) and deployment of hospital resource nurses with special preparation in the clinical management of this high-risk patient group (Fulmer, 1991; Inouye et al., 1999; Wanich, Sullivan-Marx, Gottlieb, & Johnson, 1992). Approaches that focus on episodes of acute illness from hospital to home, such as the Transitional Care Model (TCM) (Naylor et al., 1994; Naylor et al., 1999; Naylor et al., 2004), also have demonstrated benefits among high risk older adults but these care management models had not been tested among those with cognitive deficits.

Our multidisciplinary team received support from the National Institute of Aging [R01AG023116] and the Marian S. Ware Alzheimer Program to conduct a study comparing the effects of three evidence-based interventions on multiple patient, family caregiver, and cost of care outcomes. In this paper, we summarize the three strategies tested in this

comparative effectiveness clinical trial. We then describe the facilitators and barriers to conducting this research. We conclude with a set of recommendations based on lessons learned in implementing a complex research study in “real world” clinical practice settings.

Overview of Research Study Design and Methods

Design

The study used a non-randomized clinical trial design to test three interventions of varying intensities, each designed to capitalize on nursing’s central role in positively influencing the care and outcomes of hospitalized cognitively impaired older adults and their family caregivers. Since each of the interventions required changes in care processes that might affect more than enrolled patients, we were unable to randomly assign patients within a given site. Thus, we elected to test the interventions at three different hospital sites which are part of one health system and share common care clinical standards. Additionally, to minimize threats to the internal validity of the study, we conducted the study in two phases. In Phase I, we tested each of the interventions at three different hospital sites; interventions were randomly assigned to each site. In Phase II, we implemented the TCM at each site. This design enabled us to provide both cross-site (Phase I) and within site (Phase I vs. Phase II) comparisons. Enrolled patients provided assent or, when able, written, informed consent; family caregivers also provided written, informed consent to participate in this University of Pennsylvania (Penn) IRB approved study. Experience with care, health (e.g., functional status), quality of life and resource utilization (e.g., rehospitalization rates) outcomes for enrolled patients and family caregivers were assessed at multiple intervals through six months following patients’ index hospitalization discharge dates.

Eligibility

Hospitalized community dwelling older adults had to meet the following inclusion criteria at the time of enrollment: 65 years of age or older, live within 30 miles of the admitting hospital, speak English, and have family caregivers willing to participate in the study. Potentially eligible patients also had to present either of the following cognitive problems: pre-existing, documented diagnosis of dementia or detection of cognitive impairment during index hospitalization via standardized in-person assessments. Patients were not eligible to participate if they were enrolled in Medicare’s hospice or end-stage renal disease programs, were undergoing active treatment for cancer, had untreated or unmanaged psychiatric problems or a primary diagnosis of stroke at the time of enrollment.

Cognitive Screens

Prior to implementation of cognitive screening, research assistants (RAs), bachelor’s prepared nurses or social workers, completed an orientation to assure accurate application of standardized instruments as well as implementation of chart abstraction and documentation protocols. Additionally, each RA completed online research ethics and HIPAA training (mean orientation time per RA = 40 hours). Weekly meetings between the RAs and project manager were conducted throughout the intervention period to review performance data and promote continued quality improvement.

Daily, an electronic list of patients age 65 and older admitted in the past 24 hours at each hospital was provided to RAs and the project manager. Data were stored behind password protected files on the health system's secure HIPAA compliant computer servers to protect enrollees' privacy. Penn's IRB approved screening without requiring patient enrollment since the case was made that cognitive assessment should be standard care. Initial patient screens (i.e., chart abstractions for documentation of pre-existing diagnoses or implementation of standardized in-person assessments for unidentified cognitive deficits) were conducted by RAs within 24 hours of hospital admission.

The Six Item Screener [SIS] (Callahan, Unverzagt, Hui, Perkins, & Hendrie, 2002) and the CLOX1, executive clock drawing task (Royall, Cordes, & Polk, 1998), were used by RAs to assess for cognitive deficits among potentially eligible patients who did not have a documented diagnosis of dementia. In earlier studies, the SIS (consisting of three orientation and three recall questions) was effective in screening similar patients for cognitive impairment (Hirschman et al., 2010; Wilber, Carpenter, & Hustey, 2008). Patients with two errors (4) were considered impaired (range 0–6) (Callahan et al., 2002). Patients with fewer than two errors were further assessed using the CLOX1, a subscale from a two-part clock drawing assessment. This clock drawing task is strongly associated with executive function (Royall et al., 1998) defined as a cognitive processes (e.g. decision making, memory, attention, focus) that enable a person to plan, solve and/or complete daily tasks. Patients with five or more errors (10) on the CLOX1 (range 0–15) were considered to have cognitive deficits (Royall et al., 1998).

Cognitive findings were verbally communicated to patients' assigned nurses and physicians (and discharge planners for the higher dose Transitional Care Model group), and within four hours, documented results in patients' medical records. Documentation consisted of a 4×4 inch square blue and white sticker with information about the research and specific cognitive findings from chart review and screening. This was completed on all patients who screened positive for deficits.ⁱ

Approximately half the patients identified from chart review were further evaluated for eligibility (N=5398) (See Figure 1). Among this group, 1062 patients (20%) were unable to be approached due to poor health status (e.g., comatose state or intubated); an additional 583 (11%) refused or were unable to be screened due to physical impairments (e.g., hearing or visual deficits). Of the remaining 3783 patients, 1884 (50%) had either a diagnosis of dementia (234/1884, 12 %), deficits in orientation and/or recall based on the SIS or executive function based on the CLOX1 (1650/1884, 88%). Among those screened as having cognitive deficits, 638 (34%) did not meet other eligibility criteria. Of the final 1246 patients fully eligible to participate, 536 patient and 536 family caregivers enrolled (43%). Primary reasons for refusals included lack of patients' or family caregivers' interest in research.

ⁱThe screening protocol can be found in detail at: <http://www.transitionalcare.info/expanding-tcm-cognitively-impaired-older-adults-and-their-family-caregivers> under "Documentation and Communication of Assessment (PDF)"

Intervention Protocols

In Phase I (2006–2008) enrolled patients received either the lower (Augmented Standard Care), medium (Resource Nurse Care), or higher dose (Transitional Care Model) intervention. All protocols included Augmented Standard Care. Interventions were randomly assigned to one of three participating hospitals. In Phase II (2008–2010), the same clinical sites were used; patients enrolled during Phase II received the higher dose Transitional Care Model protocol. Patients enrolled in Phase I were not eligible to be enrolled again in Phase II. The three protocols are summarized below.

Site 1 - Augmented Standard Care (ASC)

The goal of the ASC protocol was to determine if simply notifying relevant health care team members about patients' cognitive deficits would influence the patients' care plans and their outcomes (Cole, 2004) which was completed through the screening process. Once patient assent and caregiver informed consent were obtained the 4×4 sticker was updated to indicate enrollment. By design, there was no additional contact between enrolled patients' primary nurses, physicians or discharge planners and the study team. Assessment of fidelity to this protocol was maintained by the project manager via quarterly review of patients' medical records and monthly calculation of time to screening and enrollment of patients. The mean per patient time required to complete the ASC protocol was 22 minutes.

Site 2 - Resource Nurse Care (RNC)

The goal of RNC protocol was to determine if special preparation of hospital employed registered nurses to provide direct care and/or coach others involved in the care of cognitively impaired older adults would have an impact on patient's care plans and outcomes (Fulmer, 1991; Rapp & Iowa Veterans Affairs Consortium, 1998). The RNC protocol extended from each patient's enrollment through the index hospital discharge. First, RAs implemented the ASC protocol described above. Next, the RA implemented the RNC intervention by notifying the unit based nurse managers of a patient's enrollment. Nurse managers were asked to assign resource nurses to enrolled patients throughout their index hospitalizations. In preparation for their role, resource nurses completed web-based modules. This educational program was developed by advanced practice nurses knowledgeable about the TCM and independently reviewed by two external clinical experts in the care of cognitively impaired older adults (see Table 1 for program topics). Using a case study approach, this learning experience was designed to improve nurses' knowledge and decision-making skills regarding optimal management of hospitalized cognitively impaired older adults and promotion of their effective transition from hospital to home.

A total of 69 registered nurses, 57 with bachelor's or master's degrees in nursing, were invited by nurse managers to complete the modules. Eight-five percent (59 of 69) completed the web-based program and earned a proficiency test score 80% required to be designated as a "resource nurse". The mean time required to complete the modules was six hours. Throughout the study, resource nurses were invited to monthly seminars led by study team members on issues relevant to the RNC protocol; however, few attended these sessions. Fidelity to the ASC component of this protocol was assessed as described earlier. Similarly,

timely assignment of enrolled patients to resource nurses was monitored. However, nurses' contributions to patients' care plans were not consistently documented, nor were the time devoted to the direct care and/or coaching components of this protocol assessed.

Site 3 - Transitional Care Model (TCM)

The TCM protocol extended from the index hospital admission through an average of two months post-index hospital discharge, complementing care delivered in hospitals and substituting for post-acute skilled care provided by nurses in patients' homes. Adapted from prior studies, the protocol was designed to address the unique needs of this patient group and their family caregivers and implemented by advanced practice nurses (APNs) who had master's degrees in nursing and at least one year of clinical experience in the care of older adults in collaboration with other team members. In addition to the RNC modules, the APNs completed TCM specific modules and individualized learning experiences guided by clinical experts; over a one month period, each APN spent a mean of 100 hours in orientation. Within 24 hours of patient enrollment including application of the ASC protocol, an APN assigned by the project manager completed in-person assessment of patients' and family caregivers' needs and goals, visited patients daily while hospitalized and collaborated with team members to design and implement plans of care aimed at improving management of acute health problems complicated by cognitive impairment and preventing common adverse events. The same APN visited the patient within 24 hours of hospital discharge, at least weekly during the first month and at least bi-weekly through completion of the intervention. APNs accompanied patients and family caregivers to first post-discharge visits to primary care providers (PCPs) to promote continuity of care. Additionally, APNs conducted telephone outreach and were available by phone seven days per week, working collaboratively with primary care clinicians to assure smooth transitions following completion of this protocol (Naylor et al., 2007). APNs documented assessments, patient and caregiver priority problems and interventions and completed individualized case studies (Bradway et al., 2012). APNs met bimonthly with two clinical experts to review cases. The mean number of per patient visits was 11 and per patient calls was 10. Fidelity to the TCM intervention protocol also was assessed.

Summary of Interventions

This clinical trial advanced the knowledge gained in three reported National Institute of Nursing Research (NINR) funded randomized clinical trials (RCTs) that consistently demonstrated the clinical and cost effectiveness of the TCM (Naylor et al., 1994; Naylor et al., 1999; Naylor et al., 2004). This study extended application of this model to cognitively impaired older adults and explicitly assessed the protocol's impact on both patients and family caregivers. Additionally, rather than comparing the TCM to a similar group receiving standard care, this study examined the performance of the TCM relative to other evidence-based interventions of varying intensities. Scholars suggest that ASC, the lower intensity intervention, should be standard care (Callahan et al., 2002). The RNC capitalized on the critical role of hospital-based nurses in anticipating and responding to the clinical challenges posed by high risk patient groups with complex physical and cognitive needs. Evidence generated from this study is important in determining how systems can engage complex

patients and their family caregivers more effectively and efficiently. Importantly, knowledge also is needed to more fully understand the challenges encountered in testing innovative care models in health care systems with a primary commitment to care of current patients. These often are perceived as competing priorities. The section that follows is designed to better understand how research focused on future care delivery and ‘real world practice’ might be better aligned.

Facilitators and Barriers to Implementing Intervention Protocols

Facilitators and barriers to the implementation of the three intervention protocols were assessed from multiple data sources including study team meeting minutes; notes from APN meetings with clinical experts; and recollections from investigators, RAs, and APNs. A detailed analysis of the specifics of the TCM intervention based on the case studies is published elsewhere (Bradway et al., 2012). This is the first paper to describe the experience of implementing this complex research study in challenging patient care environments.

Common Facilitators

Several factors positively influenced the ability to achieve study aims. The health system in which these interventions were tested has a long history of commitment to advances in interdisciplinary, innovative care of older adults. At each hospital nurse “champions” were identified who were instrumental in establishing the relationships need to launch the study and deploy team members (e.g., RAs). At the time the study began, hospital leaders expressed a strong commitment to enhance patient safety and prevent adverse events such as avoidable rehospitalizations through enhanced care transitions. Indeed, implementing enhanced care transitions was identified as a system-wide major priority during the study period.

The tools selected to assess cognitive status were brief and easy to administer, posing limited burden to patients. The form and process selected to communicate findings were timely and easily understood. Additionally, interprofessional patient rounds, documentation in an integrated progress note and an on-line discharge planning documentation system facilitated communication among clinicians at all sites.

Common Barriers

The implementation of any initiative that changes common care processes is challenging. By design, this study required family caregiver participation, as risks for poor outcomes increase if cognitively impaired patients do not have adequate social support (Naylor et al., 2007). Fifty percent (1884/3783) of patients were assessed with cognitive deficits but, despite the use of multiple strategies, some (393/1884, 21%) caregivers could not be identified or reached while others (217/1246, 17%) were unwilling to participate.

Cognitive screening across all three sites revealed that 46.5% (1650/3549) of hospitalized older adults had deficits that had not been previously identified. Consequently, some patients and their family caregivers were understandably upset to learn about potential cognitive problems. RAs had been prepared for a range of responses and assured the patients, family members and the health care team that this screen signaled a deficit at that

moment in time but was not diagnostic. Even after many efforts by RAs (often over multiple visits) to explain the nature of these signals and potential implications for plans of care, some patients and family caregivers were unable to acknowledge deficits, presenting challenges in obtaining consent for study participation. In addition to the difficulties encountered among those who were screened, 20% of patients were not screened due to the patients' poor health status. Thus, patients with potentially higher risk for poor outcomes may not have had the opportunity to benefit from an increased focus on accompanying cognitive deficits.

RNC Facilitators

Voluntary Engagement of Registered Nurses—Based on prior testing of the RNC model, the team determined that engagement of nurses would be strengthened if the process was voluntary. Nurse champions at this site initially promoted the study and assisted in identifying potential nurses. Designation as “resource nurses” was acknowledged through a variety of modest mechanisms (e.g., certificates). However, initial enthusiasm waned over time. Study team perseverance coupled with the support of nurse champions ultimately resulted in modest engagement of registered nurses.

Quality and Self-Paced Nature of Educational Modules—The content of the resource nurse training modules was evidence based and, as a result of using a case study model, engaging from a learner's perspective. Additionally, the content was organized so that nurses could concentrate on expanding individualized knowledge and skills in managing the complex needs of this population; modules were completed at a self-directed pace.

RNC Barriers

Inadequate Resources—In retrospect the use of a “voluntary” model did not account for the day to day pressures on clinical nurse leaders and staff to deliver high quality care to patients. Specifically, the study design and funding did not adequately support, recognize or reward resource nurses. Early in implementation, the study team realized that recruitment of sufficient numbers of nurses to cover all shifts on all units that might admit eligible patients was not possible. In response and in collaboration with clinical nurse leaders, the team focused recruitment of resource nurses from two high volume units and invested study funds to reimburse the hospital for the time nurses required to complete the modules.

Fidelity Assessment—In order to approximate a “real world” model of influencing nursing practice, the study team decided not to monitor the ongoing implementation of the RNC intervention. While attainment of an acceptable level of knowledge was assessed by the study team prior to designation as a resource nurse, no efforts were made to influence the direct care or coaching practices of these nurses. Consequently, there is limited understanding of how this learning experience affected the care delivered to enrolled patients at this site.

TCM Facilitators

Institutional Champions of the TCM—Widespread acceptance of the importance of the APN role in the TCM facilitated implementation of this protocol. A history of

multidisciplinary collaboration between study investigators and the health system (Naylor et al., 2004) led to a positive working relationship between study personnel and the leadership and staff of the health care system.

Care Continuity—The continued involvement of the same APNs with patients throughout the transition from hospital to home fostered collaborative experiences with older adults, family caregivers and health care clinicians (Bradway, Bixby, Hirschman, McCauley, & Naylor, 2013; Bradway et al., 2012). APNs also facilitated positive relationships with community-based organizations over time that helped to foster sustainable plans of care.

Availability of TCM and Gerontology Clinical Experts—During biweekly one hour case conferences, root cause analyses of both positive and negative outcomes were facilitated by clinical experts (KM and CB). The experts' mentoring of the APNs facilitated advanced problem solving. Consultation with other experts (gerontology-psychiatric nurse specialists, nutritionists, and pharmacologist) also helped to address knowledge gaps.

APN Expertise—As highly-skilled and experienced care providers, the APNs promoted advanced care coordination, complex problem solving and strong interprofessional collaboration across the continuum of care. This facilitated acute care as well as the coordination necessary to arrange appropriate community resources. For example, collaboration with the health system's home care and palliative care programs facilitated essential referrals and the transition of patients to needed services.

TCM Barriers

Integration of the APN into the hospital and post-hospital care teams—Study personnel needed to negotiate their roles within established in-patient and out-patient teams. This required that APNs and investigators educate practice colleagues about the potential contributions of the APNs, including their role in facilitating the effectiveness of the entire team in managing the patient. Distrust emerged if clinicians perceived the APN as interfering with or usurping their role.

Lessons Learned

Our experience provides important lessons that inform strategies for implementing complex studies into "real world" clinical settings.

Lesson One: Make Cognitive Assessment A Core Standard of Care

Despite available evidence reinforcing the critical importance of considering cognitive status in optimizing patient care and outcomes, assessment of potential deficits is still not a core standard of care. The selection of appropriate tools must balance achieving an accurate and comprehensive assessment with assuring that patients and clinicians are not unduly burdened. For example, loss of executive function interferes with patient's ability to make effective decisions, follow instructions in post-acute care settings, and adjust to the ongoing demands of illness and its management; patients with such deficits require targeted assistance to assure successful outcomes. The CLOX1 instrument (Royall et al., 1998), which requires little time to complete, proved to be particularly helpful in detecting loss of

executive function. Baseline data on the patients revealed that almost one-quarter of patients enrolled in the study also had delirium present at baseline using the Confusion Assessment Method (CAM) (Inouye et al., 1990). It is possible that the cognitive deficits detected during the initial screening process were delirium. We recommend that future standard of care cognitive assessments should include a screen for delirium.

Lesson Two: Overcome System Barriers to Learning Health Systems

A strong partnership between health care organizations and study teams is essential to accomplish study aims. A recent Institute of Medicine report described the need for health care systems to play a central role as a learning health system (Institute on Medicine Committee on the Learning Health Care System in America, 2013). Such an environment fosters a culture of innovation that facilitates clinical research. Incentives to participate in innovative clinical research could be institutionalized via a recognition programs such as career ladders, or systems to facilitate evidence based practice improvements that accompany the Magnet journey. Study teams need to cultivate and fully engage such partnerships. Optimally, clinical leaders and staff not only share a commitment to the goals but also have been involved in the study's conceptualization and design, enabling roll-out of the interventions in the most effective and efficient manner possible. Making a stronger case with health system leaders and clinicians that active participation in this research study would provide tangible benefit should have been a higher priority. Including clinical leaders as key players (co-investigators or members of advisory committees) also would have facilitated achievement of study goals. We offered a state of the science staff educational program for staff nurses but fell short in convincing key partners that potential changes in care processes would increase the value of the care they delivered to patients.

Lesson Three: Routinely Involve Family Caregivers

One of the largest hurdles confronted in this study was engagement of family caregivers. At one level, the challenge was grounded in issues such as identifying, then locating and subsequently establishing a trusting relationship with an individual in order to directly involve this person in a clinical trial. Time in the hospital is often brief, therefore limiting our ability to engage some caregivers quickly. Based on available evidence (Reinhard, Levine, & Samis, 2012), we believe that the challenges we faced in engaging family caregivers relate primarily to health system barriers to inclusion of these critically important partners, particularly throughout older adults complex transitions. The problems we encountered reinforce the need to routinely involve family caregivers to assure successful patient outcomes.

Conclusion

This comparative effectiveness study was designed to test how simply informing providers of the patient's cognitive status or educating bedside nurses compared with an established advanced practice nurse driven model (TCM) that had not been tested in this particularly vulnerable population. By describing both the complexity of the study design as well as our analysis of facilitators and barriers to effective protocol implementation we hope to provide a roadmap for others who seek to improve the quality of health care for highly vulnerable

older adults through research. Strong partnerships between researchers and health system leaders, coupled with ongoing communication, from study inception to completion are critical to both optimal science and sustained practice improvements. While the divide between the health care we have and the care we could have is widening (Naylor et al., 2009), the experience reported here provides insights for a new partnership between researchers and clinicians to bridge this gap.

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Figure 1. Number of Patient Charts Reviewed and Patients Who Did and Did Not Met Eligibility Criteria

Source: Authors;

Figure describes processes to identify potential subjects through chart review and subsequent exclusion/ inclusion based on study criteria and consent.

Table 1

Dementia and Delirium Training Manual for Resource Nurse Intervention

Module Section	Content
I. Introduction	<ul style="list-style-type: none"> Introducing Enhancing Care Coordination in the Presence of Memory and Thinking Problems: A Web-Based Education Program
II. Understanding Cognitive Impairment	<ul style="list-style-type: none"> What is Dementia? What is Delirium? Complicating Factors
III. Assessing Your Patient with Cognitive Impairment (Memory and Thinking Problems)	<ul style="list-style-type: none"> Neuropsychological Screening and Assessment Nursing Assessment in the Presence of Cognitive Impairment Physical Assessment in the Presence of Cognitive Impairment
IV. Providing Education and Support From Hospital to Home	<ul style="list-style-type: none"> Discharge Planning Understanding and Managing Common Behaviors Associated with Cognitive Impairment in the Elderly From Hospital to Home: Educating Families on Day to Day Issues Advance Care Planning and Assessing Capacity
V. Enhancing Care Coordination	<ul style="list-style-type: none"> Interactive Case Study
VI. Building on the Foundation	<ul style="list-style-type: none"> Managing Memory Impairment

The detailed modules are available at: <http://www.transitionalcare.info/expanding-tcm-cognitively-impaired-older-adults-and-their-family-caregivers>